

# Global Alliance against Chronic Respiratory Diseases (GARD) Brazil success case: overcoming barriers

Alvaro A. Cruz<sup>1,2</sup>, Paulo A. Camargos<sup>2,3</sup>, Marilyn Urrutia-Pereira<sup>2,4</sup>, Rafael Stelmach<sup>2,5</sup>

<sup>1</sup>ProAR, Federal University of Bahia, Bahia, Brazil; <sup>2</sup>Global Alliance against Chronic Respiratory Diseases (GARD)/WHO; <sup>3</sup>Department of Pediatrics, Federal University of Minas Gerais, Belo Horizonte, MG, Brazil; <sup>4</sup>Department of Medicine, Universidade Federal do Pampa, Bagé, RS, Brazil; <sup>5</sup>Hospital da Clínicas, Faculdade de Medicina da Universidade de São Paulo, São Paulo, SP, Brazil

*Correspondence to:* Alvaro A. Cruz. ProAR, Federal University of Bahia, Rua Carlos Gomes, 270 CEP: 40.060-330 Salvador, Bahia, Brazil. Email: cruz.proar@gmail.com.

Submitted Dec 20, 2017. Accepted for publication Dec 22, 2017.

doi: 10.21037/jtd.2018.01.40

View this article at: <http://dx.doi.org/10.21037/jtd.2018.01.40>

## Introduction

Hundreds of millions of people suffer from chronic respiratory diseases (CRDs) worldwide: 334 million have asthma (1), 210 million have chronic obstructive pulmonary disease (COPD) and millions have other diseases such as rhinitis, sinusitis, obstructive sleep apnea, pulmonary arterial hypertension, interstitial lung diseases and cystic fibrosis (2). In 2005, 250,000 people died of asthma and 3 million died of COPD (2). COPD is now the third leading cause of death worldwide (3).

The Global Alliance against Chronic Respiratory Diseases (GARD) is a voluntary network of national and international organizations, institutions and agencies led by the World Health Organization (WHO), working towards the vision of a world where all people breathe freely, as proposed in the Global Alliance against Chronic Respiratory Diseases Action Plan 2008–2013 (4). Over 80 entities have applied to membership and contributed over the years. It aims at reducing the avoidable burden of morbidity, mortality and disability due to CRDs by means of multisectoral cooperation at national, regional and global levels, so that populations reach the highest attainable standards of health and productivity at every age and these diseases are no longer a barrier to well-being or socioeconomic development (4).

GARD action has been maintained at country level, when a partnership was established with the participation of the ministries of health, in accordance with GARD proposed approach (2), which has been developed after seven WHO Consultations from 2001 to 2005. The reports of each one

of them is available at GARD website (5).

The World Health Assembly issued a resolution (WHA 64.11), requesting WHO to develop a global action plan for the prevention and control of non-communicable diseases (NCDs) for the period 2013–2020 (6), building on what had already been achieved through the implementation of the 2008–2013 action plan. Its aim was to operationalize the commitments of the Political Declaration of the High-level Meeting of the General Assembly of the United Nations on the Prevention and Control of NCDs that took place in 2011 (7).

GARD welcomes all countries interested in the approach it has proposed for prevention and control of CRDs. Since the global launch of GARD in 2006, leaders of many countries have expressed an interest in being involved in its development (8). The high-income countries may provide technical and financial support to low- and middle-income countries. The Council of the European Union, during the Polish Presidency in 2011, has established CRDs and allergy as a priority (9,10).

Current projects vary according to country-specific needs and the level of engagement of government health departments, as summarized in a report on GARD Country activities published in 2014 (11). Where government involvement is strong, as it is in Turkey (12), Italy (13) and Portugal (14), progress has been considerable. In Italy, Portugal, Kyrgyzstan, Russia and Turkey, GARD has played a significant role in assisting the development of national CRD programmes. However, in other countries GARD-supported activities are more limited, being either disease-specific or restricted to certain geographical regions.

The expected outcome for national plans is the strengthening of existing initiatives for CRDs and the adoption of multisectoral national policies which conform to the Global Action Plan for the Prevention and Control of NCDs 2013–2020. Turkey is the best example of this integration (12). In Italy, planning innovation required overcoming major barriers to activities of interest of public health (13). South Africa's plan comprises the development of an integrated care clinical practice guideline for asthma, COPD, Tuberculosis and pneumonia, as well as a training program for primary care nurses and doctors. Initially called Practical Approach to Lung Health South Africa (PALSA PLUS), the South African program is now called PACK and has been adopted by the Ministry of Health (MoH) for national roll-out (15). The European Innovation Partnership on Active and Healthy Ageing (European Union) has proposed the Integrated Care Pathways for Airway Diseases (AIRWAYS-ICPs), which was adopted by WHO as a GARD demonstration project and can be used elsewhere (16).

The purpose of this manuscript is to report on GARD Brazil activities and achievements from 2005 to 2017, guided by GARD Action Plan 2008–2013, aiming to provide stimulus and good model for other countries to work towards the goals of the Global Action Plan for Prevention and Control of NCDs 2013–2020 (6).

## **GARD Brazil—in collaboration with the Brazilian MoH**

### *The initiation of GARD Brazil*

GARD Brazil was launched by Dr. Nikolai Khaltsev during the Brazilian Paediatric National Congress in the City of Recife, in 2006, right after the global launch in China. The preparation for the launch included a meeting with national leaders in Rio de Janeiro, 2005, and was followed by a visit to the Brazilian MoH. The officials of the MoH welcomed the initiative and nominated Dr. Alvaro Cruz as GARD National Coordinator. Subsequently, as Dr. Cruz moved to work for WHO in Geneva, Dr. Paulo Camargos replaced him as GARD Brazil Coordinator. After the initial support and the participation of its representatives in some seminars and collaborative publications, the Brazilian MoH has not given real priority to CRDs, did not develop an action plan, nor has it ever taken the lead to build a national partnership as proposed by GARD. Nevertheless, GARD Brazil have persistently developed successful initiatives for control of CRDs in this large country, always informing the MoH,

which was represented during GARD General Meeting 2014, in Salvador (17). A collaboration was also established between GARD Brazil Coordinator and staff from the Country Office of WHO on several initiatives.

### *Achievements in advocacy and raising recognition of CRDs*

Most of GARD advocacy in Brazil has been developed towards health care professionals and policy makers in collaboration with the Global Initiative for Asthma (GINA) in Brazil. Three advocacy papers have been published in *Jornal Brasileiro de Pneumologia*, indexed in Medline (18–20). Furthermore, several interviews of GARD Brazil leaders on asthma have been aired nationally on TV, radio and newspapers.

With the support of GINA in Brazil, two national seminars on asthma programmes took place bringing together some 30 regional leaders to discuss health policy on CRDs. The report of the first meeting, which took place in 2014, has been published (21).

Two experiences on introducing structured lessons on CRDs for schoolers, based on specific publications to facilitate the process, have taken place in Brazil and were presented briefly in GARD General Meeting 2015. One of them is carried out in Salvador da Bahia (22) and the other in Uruguaiana, Rio Grande do Sul (23).

Even though asthma hospitalizations have been reduced consistently since the year 2000, the overall asthma mortality of those over 5 years did not, with an unacceptable average of some 2000 lives lost every year. This unacceptable number lead GINA/GARD in Brazil to develop a social media campaign exploring the fact “asthma kills 3 people a day” and “asthma is not a trick or a lie” lead by Dr. Rafael Stelmach, the Chair of GINA in Brazil. Since June 2016, almost 25 million interactions were made through Facebook, YouTube and Instagram, and 600 asthmatics are members of a dedicated group at #GINAAnoBRASIL (24).

### *Development of a national partnership to support GARD objectives*

At the occasion of GARD Brazil launch in 2006, Dr. Nikolai Khaltsev, the medical officer of WHO in charge of CRD lectured the participants of the Brazilian Paediatric Meeting about GARD and a seminar on the development of a partnership for GARD Brazil took place with the presence of representatives of 17 nongovernmental organizations

(NGOs) including those of several national health professional societies. Nevertheless, a formal partnership between these NGOs has never been achieved. The main partners of GARD Brazil have been the Country Office of WHO, GINA in Brazil, the Brazilian Association of Allergy and Clinical Immunology, ProAR Association, Federal University of Minas Gerais and the Brazilian Research Council (CNPq) and the MoH.

The efforts for raising the recognition of CRDs in Brazil were reinforced during 2014, when a GARD Brazil Meeting was organized in Salvador da Bahia, bringing together 64 Brazilian representatives of governmental, NGOs and observers from the private sector with 50 representatives from other countries. GARD Brazil Meeting was followed by GARD General Meeting 2014, keeping all participants of the previous meeting and adding the presence of a representative of the MoH of Brazil, of WHO Country Office and a representative of WHO Assistant Director General for NCDs and Mental Health (17).

#### *Support to national plans for control of CRDs*

The leaders of GARD Brazil and their organizations have offered remarkable support to the control of CRD in Brazil. Two initiatives have pioneered city wide asthma control programmes and were recognized as GARD Demonstration Projects from 2007: (I) "Wheezy Child", in Belo Horizonte, building capacity of primary care teams to manage asthma in childhood and offering inhaled corticosteroids for free; and (II) ProAR, in Salvador da Bahia, providing free multidisciplinary approach and medication to patients with severe asthma. Both of these programmes have been successful, generated multiple publications (25-27) and became models for other initiatives elsewhere in Brazil, such as in Uruguaiana in the Southern Region, Itabira in the Centerwest and Feira de Santana, in the Northeast (28-30).

GARD Brazil has faced many challenges: (I) high prevalence of CRD; (II) insufficient capacity of primary health care workers; (III) the absence of a national action plan for CRD; (IV) lack of priority to CRD. But, major progresses have been achieved in the last decade: (I) universal access to medications for asthma and some initiatives to increase access to medications for COPD; (II) reduction in tobacco usage; (III) support to primary health care; (IV) major investments in surveillance and research on CRDs.

A landmark CRD publication of the Brazilian MoH was developed with the support of GARD Brazil and WHO in 2010: a guideline on CRDs for primary health care,

including asthma, chronic rhinitis and COPD (31).

An initiative for improving the quality of care for patients with respiratory complaints in primary health care based on WHO Practical Approach to Lung Health Strategy was developed in the municipality of Ribeirão das Neves, Minas Gerais, with support of PAHO and the MoH (32). The favourable outcomes of this programme were so evident that the Department of Health of the State of Minas Gerais has developed an extended intervention proposal, integrating all levels of care for CRDs, titled RESPIRA Minas (BREATHE Minas), for which ongoing negotiations are taking place with the Health Authority for a gradual roll out.

Considering the small number of respiratory physicians in Brazil, and the wide coverage of the Family Health National Program implemented in all territory, programs for building capacity of general practitioners were the strategy chosen to improve care for CRD. Collaborative pilot projects combining implementation and research have been rolled out in two large urban centres. In São Bernardo a collaborative intervention between primary and secondary care reduced respiratory diseases referrals (33). The project was partially funded by International Primary Care Respiratory Group, a member of GARD and strengthens the links North-South. On the other hand, a partnership South-South involving the University of Cape Town, University of Sao Paulo, University of Santa Catarina and the City of Florianópolis Department of Health allowed the adaptation, localization and implementation of PACK in this city (34).

#### *Contribution to national surveillance and research on CRDs*

A major contribution of GARD Brazil relates to surveillance and research. The MoH in collaboration with the Brazilian Institute for Statistics (IBGE) included asthma in the National Survey of the Health of Students, after discussions with GARD Brazil leaders, for the first time in 2012. The survey sampled over 100,000 adolescents from all regions of Brazil. Symptoms of asthma were found in 23.2%, but only in 12.4% a diagnosis of asthma was made (35). A new survey, performed in 2015, demonstrated a reduction in symptoms in the last year and increase in the proportion of diagnosis (submitted).

GARD leaders in Brazil are academicians devoted to public health and have generated relevant knowledge on prevalence, severity, cost, access to treatment, risk factors and effectiveness of interventions for control of CRDs. Some aspects of special interest for public health have been explored, such as diet, nutrition, obesity, exposure to

tobacco smoke, physical activity, adherence, accuracy of diagnosis in primary health care (36-40).

Despite an increase in provision of free essential medication from the Brazilian government and the availability of norms and guidelines developed by the MoH, there has been no formal action plan for prevention and control of CRD in Brazil. An active collaboration between the MoH and GARD Brazil could bring the hope for an efficient action plan.

## Conclusions

CRDs are among the most common chronic diseases in Brazil, starting from childhood, but there is no awareness of its major burden nor has it received due priority in public policies. The leaders of GARD in Brazil, following GARD proposed approach and strategic objectives, have achieved remarkable progress. The achievements, however, require support from policy makers, to be scaled up and sustainable.

## Acknowledgements

The source for funding of GARD Brazil activities over the last 10 years has been multiple, including: (I) voluntary “in kind” contribution of the coordinators and other leaders of GARD, GINA and ARIA initiatives; (II) voluntary and “in kind” contributions of the Knowledge Translation Unit of University of Cape Town, South Africa; (III) research funding from FAPESB and CNPq; (IV) donations from Associação ProAR; (V) unrestricted donations from private companies (CHIESI, Boehringer Ingelheim, GSK, AstraZeneca, Eurofarma and Novartis).

## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

## References

1. The Global Asthma Report 2014. Auckland, New Zealand: Global Asthma Network, 2014.
2. Bousquet J, Khaltav N. editors. Global surveillance, prevention and control of chronic respiratory diseases. A comprehensive approach. Geneva: World Health Organization, 2007:vii, 146p.
3. Burney PG, Patel J, Newson R, et al. Global and regional trends in COPD mortality, 1990-2010. *Eur Respir J* 2015;45:1239-47.
4. Global Alliance against Chronic Respiratory Diseases Action Plan 2008-2013. Geneva: World Health Organization, 2008:28p.
5. World Health Organization. Global Alliance against Chronic Respiratory Diseases. Available online: <http://www.who.int/gard/publications/en/>
6. Global action plan for the prevention and control of noncommunicable diseases 2013-2020. Geneva: World Health Organization, 2013:103p.
7. United Nations General Assembly resolution 66/2. Available online: [http://www.who.int/nmh/events/un\\_ncd\\_summit2011/political\\_declaration\\_en.pdf](http://www.who.int/nmh/events/un_ncd_summit2011/political_declaration_en.pdf)
8. Khaltav N. GARD, a new way to battle with chronic respiratory diseases, from disease oriented programmes to global partnership. *J Thorac Dis* 2017;9:4676-89.
9. Samoliński B, Fronczak A, Włodarczyk A, et al. Council of the European Union conclusions on chronic respiratory diseases in children. *Lancet* 2012;379:e45-6.
10. Samoliński B, Fronczak A, Kuna P, et al. Prevention and control of childhood asthma and allergy in the EU from the public health point of view: Polish Presidency of the European Union. *Allergy* 2012;67:726-31.
11. Yorgancıoğlu A, Cruz AA, Bousquet J, et al. The Global Alliance against Respiratory Diseases (GARD) Country Report. *Prim Care Respir J* 2014;23:98-101.
12. Yorgancıoğlu A, Yardım N, Ergün P, et al. Integration of GARD Turkey national program with other non-communicable diseases plans in Turkey. *Tuberk Toraks* 2010;58:213-28.
13. Laurendi G, Mele S, Centanni S, et al. Global alliance against chronic respiratory diseases in Italy (GARD-Italy): strategy and activities. *Respir Med* 2012;106:1-8.
14. Portuguese National Programme for Respiratory Diseases (PNDR 2012-2016). Portugal: DGS-Direcção Geral da Saude, 2013:17p.
15. Fairall L, Bateman E, Cornick R, et al. Innovating to improve primary care in less developed countries: towards a global model. *BMJ Innov* 2015;1:196-203.
16. European Innovation Partnership on Active and Healthy Ageing, Action Plan B3; Mechanisms of the Development of Allergy, WP 10; Global Alliance against Chronic Respiratory Diseases, et al. Integrated care pathways for airway diseases (AIRWAYS-ICPs). *Eur Respir J* 2014;44:304-23.
17. World Health Organization. Global Alliance against Chronic Respiratory Diseases. Available online: <http://www.who.int/gard/publications/en/>



18. Camargos PA, Cruz AA, Bousquet J. Medications to the North, patients to the South. *J Bras Pneumol* 2009;35:615-7.
19. Pérez-Padilla R, Stelmach R, Soto-Quiroz M, et al. Fighting respiratory diseases: divided efforts lead to weakness. *J Bras Pneumol* 2014;40:207-10.
20. Stelmach R, Cruz AA. The paradox of asthma: neglect, burden, and big data. *J Bras Pneumol* 2017;43:159-60.
21. Stelmach R, Cerci Neto A, Fonseca AC, et al. A workshop on asthma management programs and centers in Brazil: reviewing and explaining concepts. *J Bras Pneumol* 2015;41:3-15.
22. Coelho ACC, Souza-Machado C, Oliveira TS, et al. Curricular intervention increases adolescents' knowledge about asthma: a randomized trial. *J Pediatr (Rio J)* 2017. [Epub ahead of print].
23. Urrutia-Pereira M, To T, Cruz AA, et al. The school as a health promoter for children with asthma: The purpose of an education programme. *Allergol Immunopathol (Madr)* 2017;45:93-8.
24. Global Initiative for Asthma in Brazil. Available online: <http://www.ginanobrasil.org.br/>
25. Souza-Machado C, Souza-Machado A, Franco R, et al. Rapid reduction in hospitalisations after an intervention to manage severe asthma. *Eur Respir J* 2010;35:515-21.
26. Franco R, Nascimento HF, Cruz AA, et al. The economic impact of severe asthma to low-income families. *Allergy* 2009;64:478-83.
27. Fontes MJ, Affonso AG, Calazans GM, et al. Impact of an asthma management program on hospitalizations and emergency department visits. *J Pediatr (Rio J)* 2011;87:412-8.
28. Brandão HV, Cruz CM, Santos Ida S Jr, et al. Hospitalizations for asthma: impact of a program for the control of asthma and allergic rhinitis in Feira de Santana, Brazil. *J Bras Pneumol* 2009;35:723-9.
29. Andrade WC, Camargos P, Lasmar L, et al. A pediatric asthma management program in a low-income setting resulting in reduced use of health service for acute asthma. *Allergy* 2010;65:1472-7.
30. Urrutia-Pereira M, Avila J, Solé D. The Program for the Prevention of Childhood Asthma: a specialized care program for children with wheezing or asthma in Brazil. *J Bras Pneumol* 2016;42:42-7.
31. Ministério da Saúde do Brasil. *Cadernos de Atenção Básica - Doenças Respiratórias Crônicas*. Governo Federal do Brasil, 2010:154p.
32. de São José BP, Camargos PA, Bateman ED, et al. Primary care physicians' ability to diagnose the most prevalent respiratory diseases. *Int J Tuberc Lung Dis* 2016;20:1392-8.
33. Martins SM, Salibe-Filho W, Tonioli LP, et al. Implementation of matrix support' (collaborative care) to reduce asthma and COPD referrals and improve primary care management in Brazil: a pilot observational study. *NPJ Prim Care Respir Med* 2016;26:16047.
34. University of Cape Town. Knowledge Translation Unit. *PACK Brasil Adulto*. Available online: <http://knowledgetranslation.co.za/programmes/pack-brazil-adult/>
35. Barreto ML, Ribeiro-Silva Rde C, Malta DC, et al. Prevalence of asthma symptoms among adolescents in Brazil: National Adolescent School-based Health Survey (PeNSE 2012). *Rev Bras Epidemiol* 2014;17 Suppl 1:106-15.
36. Franco R, Nascimento HF, Cruz AA, et al. The economic impact of severe asthma to low-income families. *Allergy* 2009;64:478-83.
37. Franco R, Santos AC, do Nascimento HF, et al. Cost-effectiveness analysis of a state funded programme for control of severe asthma. *BMC Public Health* 2007;7:82.
38. Matos SM, Jesus SR, Saldiva SR, et al. Weight gain in the first two years of life, asthma and atopy: the SCAALA cohort study. *Public Health Nutr* 2014;17:2537-45.
39. Barros LL, Souza-Machado A, Corrêa LB, et al. Obesity and poor asthma control in patients with severe asthma. *J Asthma* 2011;48:171-6.
40. José BP, Camargos PA, Cruz Filho AA, et al. Diagnostic accuracy of respiratory diseases in primary health units. *Rev Assoc Med Bras (1992)* 2014;60:599-612.

**Cite this article as:** Cruz AA, Camargos PA, Urrutia-Pereira M, Stelmach R. Global Alliance against Chronic Respiratory Diseases (GARD) Brazil success case: overcoming barriers. *J Thorac Dis* 2018;10(1):534-538. doi: 10.21037/jtd.2018.01.40